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| 09/541,853      | 04/03/2000  | Paul Andrew Miller   | 1322/9              | 4243             |

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| EXAMINER |
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LEE, TIMOTHY L

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| ART UNIT | PAPER NUMBER |
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2662

DATE MAILED: 10/31/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/541,853

Applicant(s)

MILLER ET AL.

Examiner

Timothy Lee

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 32-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5-11. 6) ☒ Other: IDS: P. 13 and 14 also.

## DETAILED ACTION

### *Claim Objections*

1. Claims 5 and 25 are objected to because of the following informalities: in claim 5, the term "MTP" in line 2 is not spelled; in claim 25, "forwarding the forwarding" in line 13 appears to be a typographical error. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US 5,923,659).

4. Regarding claims 1, 11, 21 and 25, Curry et al. discloses a system and method for controlling two or more telecommunications networks which are themselves capable of exercising a form of common channel signaling network control. In Fig. 12, Curry et al. discloses the receiving of an SS7 packet message at an STP from an SSP. Inherently, if the SSP is sending an SS7 packet message to the STP over link, the link itself must be a type of SS7 link (over an SS7 signaling link). As is also shown in Fig. 12, the STP 118 connects with SSP 110, SSP 116, and SSP 104 (connecting a first interface of an edge device to a plurality of SPs using a plurality of fixed-bandwidth SS7 signaling links). When the STP recognizes that a foreign prefix exists, it directs the packet to the Internet Module, where the Module performs the necessary address determination and adds the appropriate addressing and instructional overhead to

encapsulate the packet in one or more TCP/IP packets, and transmits the packet over the Internet. See Fig. 12, and col. 21, lines 12-50. It is inherent that if you are encapsulating the packets into TCP/IP packets then you will be sending the packets over a variable bandwidth IP capable link to a node that is IP capable—link 134 in Fig. 12 is an IP capable link (connecting a second interface of the edge device to an IP-capable node using a variable bandwidth signaling link). It is also inherent that messages originating from the various SSP's will be multiplexed together so that they can be sent over the IP capable link (multiplexing messages received from the SPs received over the SS7 links and transmitting the messages to the IP capable node). Curry et al. does not expressly disclose where the interface for connecting the plurality of SPs resides on the same edge device as the interface for multiplexing to the variable-bandwidth signaling link. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the functions of the Internet Module with the functions of the signal transfer point into one device. One would have been motivated to do this because it would streamline the setup, thus making the system more compact and reduce the number of components needed to make the system.

5. Regarding claim 11 more specifically, the network shown in Fig. 12 is somewhat symmetrical, where the STP/Internet module combination on the left side is like the STP/Internet module combination on the right side of the network. Like STP 118, STP 148 is also connected to two SSPs, 142 and 146 (a first interface of a second edge device to third and fourth SPs). As mentioned previously, the Internet modules are connected by TCP/IP links through the Internet.

Art Unit: 2662

6. Regarding claim 2, as mentioned previously, the combination of the STP and the Internet Module is responsible for encapsulating the messages originating from the SPs so that they can be transferred over the Internet.

7. Regarding claims 3, 12, and 17, as mentioned previously, the messages are encapsulated into TCP/IP packets so that they can be transferred over TCP/IP links.

8. Regarding claim 5, if the messages are directed toward the Internet will be processed through MTP routing (multiplexing messages received from the SP's includes performing MTP routing).

9. Regarding claims 6, 7, 8, 15, 22 and 23, all messages come to the STP and only the ones where the translation table recognizes as a foreign prefix are directed towards the Internet (determining messages are directed to locally-connected nodes, routing the messages to the locally-connected nodes over one of the SS7 links). See col. 21, lines 21-24. Extracting information from the prefix to decide the packet's destination is the same idea as extracting a destination point code and comparing to values stored in a routing table.

10. Regarding claim 9, from Fig. 12, the Server Internet Module 140 on the other side of the network can be considered an IP capable node that is a SS7/IP gateway because it bridges the SS7 network and the IP network.

11. Regarding claims 10, 24, and 31, as mentioned previously, the plurality of SPs are specifically SSPs.

12. Regarding claims 13 and 14, as mentioned previously, the SPs are connected to the edge device through SS7 links.

Art Unit: 2662

13. Regarding claim 16, it is inherent that the interface between the STP and the SSPs will work on the layer 2 and layer 3 processes of SS7.

14. Regarding claim 18, the combination of the STP and the Internet Module forwards the messages the edge of the Internet Module, which also acts as an SS7/IP gateway.

15. Regarding claim 19, Curry et al. does not expressly disclose encapsulating the SS7 messages first into transport adaptor layer interface packets before encapsulating those to make them into IP datagrams, but it would have been obvious to add this extra step into the encapsulation process of Curry et al.. One would have been motivated to do this because the encapsulation step could be broken into two steps, and thus the encapsulation mechanisms wouldn't have to be as complicated as it would be if it existed in one step.

16. Regarding claims 26, 27, and 28, Curry et al. does not expressly disclose filtering out LSSUs and FISUs received over the SS7 links, but it would have been obvious to filter them. One would have been motivated to do this because sending them along the TCP/IP links would be a waste of resources since they are only needed to determine the status of the SS7 links.

17. Regarding claim 29, as mentioned previously, the messages with outbound destinations will be passed onto the network.

18. Regarding claim 30, Curry et al. does not expressly disclose where the SS7 signals don't have point codes, but it would be obvious to some of the signal units do not have point codes. One would have been motivated to receive these units because sometimes there is a need to provide for recognition of unknown coded packets and the system can figure out where to send them.

Art Unit: 2662

19. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. in view of Schrodi et al. (US 5,173,897), in light of the rejections to claims 3 and 19. Curry et al. does not expressly disclose including an application-level sequence number to the SS7 user part message. Schrodi et al. discloses adding a sequence number to ATM cells in transmission. See col. 1, lines 34-47. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the teachings from Schrodi et al. of adding sequence numbers to packets in the SS7 packets disclosed by Curry et al.. One of ordinary skill in the art would have been motivated to do this because adding sequence numbers allows the receiver to know if a packet fails to transmit, or if the packets get transmitted out of sequence.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Farris (US 6,195,425) and Farris (US 6,064,653) disclose networks that have many SSPs connected together and have information traveling over an Internet. Balakrishnan (US 5,793,425) discloses multiplexing together various data streams.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Application/Control Number: 09/541,853

Page 7

Art Unit: 2662

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL



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